Alberta
Life Sciences Institute

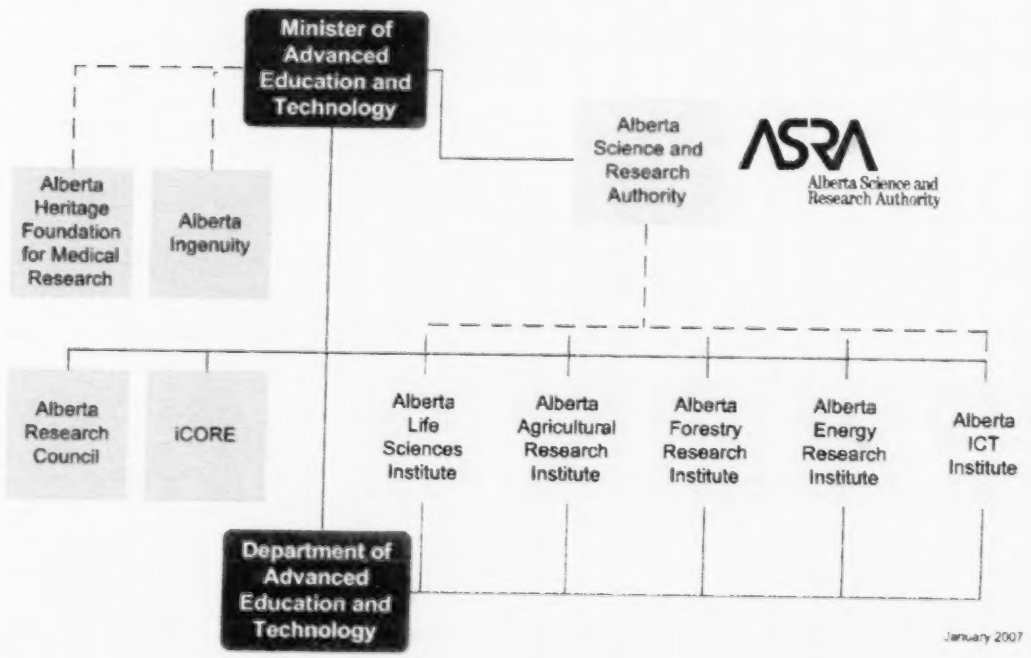
Alberta Life Sciences Institute
Annual Report 2008-2009
The Year in Review

OVERVIEW

Established in December 2005 under the *Alberta Sciences and Research Authority Act*, the Alberta Life Sciences Institute (ALSI) is an unincorporated Board consisting of representatives from industry and academia. The Institute focuses on the life sciences opportunities that can be found at the convergence of the traditional health, agriculture, energy and forestry sectors. ALSI works collaboratively with other government departments, industry, stakeholders and research institutions to enhance and expand Alberta's life sciences capacity.

The Institute leads the implementation of the province's *Growing Our Future: An Integrated Life Sciences Strategy*, and complements the focus of the Alberta Agricultural Research Institute and the Alberta Forestry Research Institute. ALSI places a priority on the following areas of opportunity:

- Bioproducts innovation
- Health innovation
- Resource management innovation
- Building the base



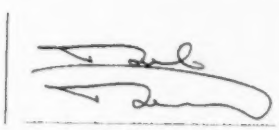
MESSAGE FROM THE ALSI BOARD

On behalf of the ALSI Board of Directors, we are pleased to present to the Minister of Advanced Education and Technology our 2008-09 annual report. ALSI during 2008-09 sought out and encouraged opportunities in life sciences innovation that will yield prosperity and progress for Albertans – opportunities for enhanced health and lifestyle, as well as for sustained economic wellbeing.

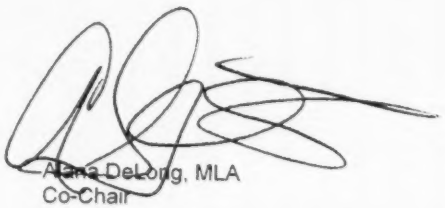
ALSI directions reflect the understanding that innovation is critical to the success of Alberta's people and communities in the 21st century - and the life sciences offer particularly fertile ground for this innovation-based growth. Innovation opportunities abound – from "smart medicine" to "Biorefining" –from career opportunities in "omics" to industrial opportunities using life sciences as its core.

We would like to thank our Board of Directors for their strategic insight and direction. We want to thank Mike Percy and Hans van de Sande, for their contributions during their tenure with the ALSI board.

The Co-Chairs appreciate the ALSI Board's support for the Roles and Mandates Framework of the Provincially-Funded Research and Innovation System in Alberta. We anticipate that the development of a new bioindustries corporation will bring energy and creativity to the challenges and opportunities of the next century of innovation in Alberta's Life Sciences sector.



Dr. Rob Rennie
Co-Chair



Ariana DeLong, MLA
Co-Chair

June 2009

Key Activities and Accomplishments

Activities undertaken by ALSI over the 2008-2009 fiscal year support the directions established by the Alberta Science and Research Authority, and also support the Advanced Education and Technology Business Plan.

The Alberta Life Sciences Institute has structured its business processes around four strategic themes:

Bioproducts Innovation
Alberta capitalizes on its biomass assets, to complement its non-renewable energy strengths

The Board:

- Supported, in cooperation with Agriculture and Rural Development, Sustainable Resource Development and the Alberta Research Council, the establishment of the Alberta BioMaterials Development Centre. The Alberta Biomaterials Development Centre (Biomaterials Centre) is a provincial initiative to establish Alberta as an innovation and commercialization leader in the growing field of agriculture and forestry based biomaterials. The Biomaterials Centre will help companies bring products and services to market more quickly and efficiently.

- Supported the establishment of the Alberta BioConversion Network. The goal of the network will be to facilitate the development and implementation of new technologies for the conversion of Alberta biomass to high value products. The network, through its researchers and its collaborating network partners, will play a pivotal role in helping the province realize its potential for economic activity in the bio-industrial sector

- Supported the Alberta proponents from the Applied Genomics in Bioproducts and Crops Competition (ABC):
    - Metagenomics for Greener Production and Extraction of Hydrocarbon Energy (Voordouw)
    - Synthetic Biosystems for the Production of High-Value Metabolites (Facchini)

Health Innovation
Alberta improves health outcomes through innovation

The Board:

- Released *Making the Food – Health Connection, An Alberta Framework for Innovation*. The framework is an overarching strategy document that aims to help Albertans become healthier, and for Alberta companies to participate in the global marketplace for healthy food products. The project team, with representatives from the three ministries, is currently working on Phase II of the project. This phase includes developing a five-year action plan that identifies the activities, resource requirements, and project milestones needed to implement the strategies identified in the document.
- Recommended to the Minister of AET – "Making the Food – Health Connection – An Action Plan for Implementation", which outlines key investments in the innovation system that would be required to achieve the vision of "*Making the Food – Health Connection, An Alberta Framework for Innovation*.

- Recommended to the Minister initiatives that advance the strategic priorities of the ALSI board covering many fields from genomics to chromatography, and microbes to fatty acids.

Resource Management Innovation
Alberta optimizes environmental quality and resource management through life science innovation

The Board:

- Continued to promote investment in Metagenomics as a method of applied genomics in the Oilsands and conventional oil deposits, that would result in enhancing hydrocarbon recovery and greatly reduce the environmental impact of current extraction practices. These novel technologies could increase the extraction and water use efficiency, reduce the greenhouse gas emissions and, in effect, lower the impact on the environment.

- Supported the Institute for Agriculture, Forestry and the Environment (IAFE) in hosting an international Think Tank on Ecological Goods &Services Markets. The Think Tank was a mechanism to bring together ideas from national and international experts in this field to inform the IAFE's policy development.

- ALSI (working with AARI) requested a summary of Alberta capability and capacity to enhance the water and nutrient use efficiency of crops from Dr. Allen Good (University of Alberta). Dr. Good highlighted the current research capacity in the province, and noted that targeted investment could make the province a destination for interested water and nutrient use collaborators. ALSI will be hosting a Nutrient and Water Use International Forum in November 2009.

Building the Base
Alberta's economy is supported by an attractive life sciences business and research environment

The Board:

- Supported the development of an "Omics" Asset Map with Genome Alberta. This document when complete will contain information on 'omic' fields such as genomics, proteomics, metabolomics and bioinformatics. It will identify key researchers and work being done in Alberta in the omics fields. It will highlight key infrastructure and facilities, and provide a database of the key researchers, their expertise and research information.

Supporting Activities

- In August 2008, the ALSI website (www.alsi.alberta.ca) was launched to provide more information to stakeholders around the world about the direction Alberta is taking in life sciences research and motivate stakeholders to become R&D partners or investors. The website includes the most current news and events, and highlight key initiatives undertaken by the Alberta Life Science Institute.

Financial Details

ALSI Investment Portfolio for 2008-2009 Fiscal Year:

During 2008-2009, $5.0 million was invested in the strategic themes of ALSI: Bioproducts Innovation, Resource Management Innovation, Health Innovation and Building the Base.